

CLAIMS:

1. A calibration system for calibrating an optical sensor in a hardcopy device,
comprising:
 - a target having a selected optical property;
 - a removable cover selectively covering the target; and
 - a cover opening member which selectively removes the cover to expose the target for viewing by the optical sensor.
2. A calibration system according to claim 1 wherein the selected optical property comprises a color.
3. A calibration system according to claim 2 wherein said color comprises white.
4. A calibration system according to claim 1 wherein:
 - the hardcopy device includes a moveable member which supports the optical sensor;
 - and
 - the cover opening member comprises a portion of the optical sensor which engages the cover to expose the target.
5. A calibration system according to claim 1 wherein the cover pivots to expose the target.
6. A calibration system according to claim 1 wherein the cover has an open window portion through which the target is exposed for viewing by the optical sensor.
7. A calibration system according to claim 1 further including a biasing member which biases the cover into a closed position when unused, and which is stressed when the opening member moves the cover to an open position to expose the target.
8. A calibration system according to claim 7 wherein:
 - the cover pivots between the closed position and the open position; and
 - the biasing member comprises a coil spring.

9. A calibration system according to claim 1 wherein:
the selected optical property comprises a white color;
the hardcopy device includes a moveable member which supports the optical sensor;
the cover opening member comprises a portion of the optical sensor which pivots the cover to expose the target;
the cover has an open window portion through which the target is exposed for said viewing; and
the calibration system further includes a coil spring which biases the cover into a closed position when unused, and which is stressed when the optical sensor moves the cover to an open position to expose the target.
10. A method of calibrating an optical sensor in a hardcopy device, comprising:
exposing a target having a selected optical property;
viewing the target with the optical sensor and generating a sensor signal;
comparing the sensor signal with a reference signal, and when an unacceptable difference is found, adjusting an operating parameter of the optical sensor; and
covering the target at the conclusion of said viewing.
11. A method according to claim 10 wherein the selected optical property comprises a color.
12. A method according to claim 11 wherein said color comprises white.
13. A method according to claim 10 wherein:
said exposing comprises opening a cover member, which normally covers the target, with the optical sensor; and
said covering comprises closing the cover member with the optical sensor.
14. A method according to claim 13 wherein said covering comprises biasing the cover member into a closed position.

15. A method according to claim 13 wherein:
said opening comprises pivoting the cover member; and
said closing comprises pivoting the cover member.

16. A method according to claim 10 wherein the hardcopy device comprises an inkjet printing mechanism having a reciprocating carriage, further comprising:

transporting a printhead and the optical sensor with the carriage through a printzone and into a servicing region;

housing the target in the servicing region and providing a cover member defining a window therethrough;

wherein said exposing comprises moving the cover member with the optical sensor until the window is aligned with the target; and

wherein said covering comprises moving the cover member with the optical sensor until the window is unaligned with the target.

17. A method according to claim 16 wherein said moving the cover member during said exposing and said covering comprises pivoting the cover member.

18. A method according to claim 17 wherein said covering comprises pivoting the cover member into a first covering position or into a second covering position.

19. A method according to claim 18 wherein said exposing occurs when pivoting the cover member between the first and second covering positions.

20. A method according to claim 18 further comprising:

moving the printhead into a servicing position in the servicing region with the carriage;

wherein the optical sensor pivots the cover member into the first covering position when transported through the printzone; and

wherein the optical sensor pivots the cover member into the second covering position when the carriage moves the printhead into the servicing position.

21. A method according to claim 20 further comprising:
biasing the cover member into the first covering position by relaxing a biasing member; and
wherein pivoting the cover member into the second covering position comprises stressing the biasing member.
22. A hardcopy device, comprising:
a frame defining a media interaction zone;
a media handling system for moving media through the media interaction zone;
an interaction head which interacts with media in the interaction zone;
an optical sensor including a light emitting element which selectively illuminates an object within the hardcopy device, and a sensor which receives light reflected from the illuminated object; and
a calibration system for calibrating the optical sensor, comprising:
(a) a target having a selected optical property;
(b) a removable cover selectively covering the target; and
(c) a cover opening member which selectively removes the cover to expose the target for viewing by the sensor.
23. A hardcopy device according to claim 22 wherein the selected optical property comprises a color.
24. A hardcopy device according to claim 23 wherein said color comprises white.
25. A hardcopy device according to claim 22 further including:
a moveable member which supports the optical sensor; and
wherein the cover opening member comprises a portion of the optical sensor which engages the cover to expose the target.
26. A hardcopy device according to claim 22 wherein the cover pivots to expose the target.

27. A hardcopy device according to claim 22 wherein the cover has an open window portion through which the target is exposed for viewing by the optical sensor.

28. A hardcopy device according to claim 22 further including a biasing member which biases the cover into a closed position when unused, and which is stressed when the opening member moves the cover to an open position to expose the target.

29. A hardcopy device according to claim 22 wherein:
the cover selectively covers the target by pivoting into a first covering position or into a second covering position; and
the target is exposed for viewing by the sensor when the cover pivots between the first and second covering positions.

30. A hardcopy device according to claim 22 comprising an inkjet printing mechanism, wherein:
the media interaction zone comprises a printzone; and
the interaction head comprises an inkjet printhead.

31. A hardcopy device according to claim 30 further including:
a servicing region;
a service station housed within the servicing region; and
a carriage which reciprocates the printhead through the printzone and into the servicing region, with the carriage also supporting the optical sensor.

32. A hardcopy device according to claim 31 wherein the cover pivots while exposing and covering the target.

33. A hardcopy device according to claim 32 wherein the cover covers the target by pivoting into a first covering position or into a second covering position, while exposing the target when pivoting between the first and second covering positions.

34. A hardcopy device according to claim 33 wherein:
the carriage moves the printhead into a servicing position in the servicing region;
the optical sensor pivots the cover into the first covering position when transported through the printzone; and
the optical sensor pivots the cover into the second covering position when the carriage moves the printhead into the servicing position.

35. A hardcopy device according to claim 22 wherein:
the sensor generates a sensor signal in response to the received reflected light; and
the hardcopy device further includes a controller which adjusts an operating parameter of the hardcopy device in response to said sensor signal.

36. A hardcopy device according to claim 22 further comprising plural light emitting elements each emitting different colors.

37. A hardcopy device according to claim 36 wherein:
a first light emitting element emits a blue light;
a second light emitting element emits a green light; and
a third light emitting element emits a red light.

38. A hardcopy device according to claim 37 wherein:
the first light emitting element emits a blue light having a wavelength with a centroid of 454-484 nanometers;
the second light emitting element emits a green light having a wavelength with a centroid of 515-545 nanometers; and
the third light emitting element emits a red light having a wavelength with a centroid of 630-660 nanometers.

39. An optical sensor system according to claim 38 further including a fourth light emitting element which emits an orange light.

40. An optical sensor system according to claim 39 wherein:
the fourth light emitting element emits an orange light having a wavelength with a centroid of 592-622 nanometers; and
the plural light emitting elements each comprise a light emitting diode.
41. A hardcopy device according to claim 22 wherein the sensor receives diffuse light reflected from the illuminated object.
42. A hardcopy device according to claim 41 further including a second sensor which receives specular light reflected from the illuminated object.